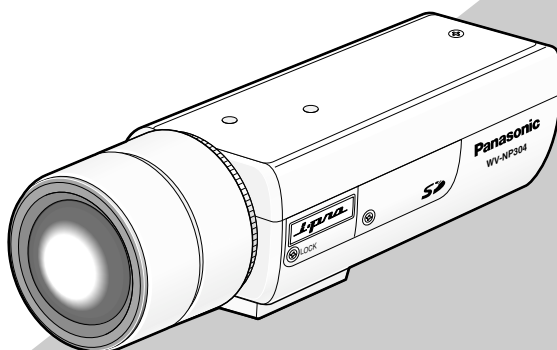


# Panasonic

## Network Camera Installation Guide

Model No. **WV-NP304**



(Lens is option.)

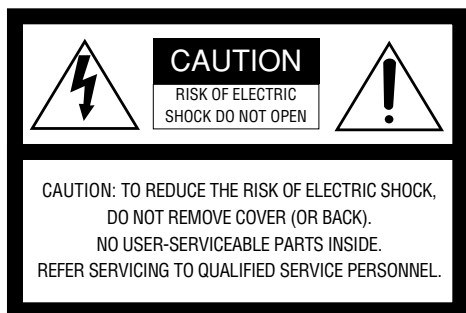


Before attempting to connect or operate this product,  
please read these instructions carefully and save this manual for future use.

No model number suffix is shown in this manual.

#### WARNING:

- This apparatus must be earthed.
- To prevent fire or electric shock hazard, do not expose this apparatus to rain or moisture.
- The apparatus should not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, should be placed on the apparatus.
- All work related to the installation of this product should be made by qualified service personnel or system installers.
- The connections should comply with local electrical code.



The lightning flash with arrow-head symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Vi deklarerar härmed vårt fulla ansvar för att den produkt till vilken denna deklaration hänvisar är i överensstämmelse med standarddokument, eller andra normativa dokument som framställs i direktiv nr. 2006/95/EC och 2004/108/EC.

Ilmoitamme yksinomaisella vastuullamme, että tuote, jota tämä ilmoitus koskee, noudattaa seuraavia standardeja tai muita ohjeellisia asiakirjoja, jotka noudattavat direktiivien 2006/95/EC ja 2004/108/EC säädöksiä.

Vi erklærer oss alene ansvarlige for at produktet som denne erklæringen gjelder for, er i overensstemmelse med følgende normer eller andre normgivende dokumenter som følger bestemmelsene i direktivene 2006/95/EC og 2004/108/EC.

We declare under our sole responsibility that the product to which this declaration relates is in conformity with the standards or other normative documents following the provisions of Directives 2006/95/EC and 2004/108/EC.

Wij verklaren als enige aansprakelijke, dat het product waarop deze verklaring betrekking heeft, voldoet aan de volgende normen of andere normatieve documenten, overeenkomstig de bepalingen van Richtlijnen 2006/95/EC en 2004/108/EC.

Vi erklærer os eneansvarlige for, at dette produkt, som denne deklaration omhandler, er i overensstemmelse med standarder eller andre normative dokumenter i følge bestemmelserne i direktivene 2006/95/EC og 2004/108/EC.

# Important Safety Instructions

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

## Limitation of Liability

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- (1) ANY DAMAGE AND LOSS, INCLUDING WITHOUT LIMITATION, DIRECT OR INDIRECT, SPECIAL, CONSEQUENTIAL OR EXEMPLARY, ARISING OUT OF OR RELATING TO THE PRODUCT;
- (2) PERSONAL INJURY OR ANY DAMAGE CAUSED BY INAPPROPRIATE USE OR NEGLIGENT OPERATION OF THE USER;
- (3) UNAUTHORIZED DISASSEMBLE, REPAIR OR MODIFICATION OF THE PRODUCT BY THE USER;
- (4) INCONVENIENCE OR ANY LOSS ARISING WHEN IMAGES ARE NOT DISPLAYED, DUE TO ANY REASON OR CAUSE INCLUDING ANY FAILURE OR PROBLEM OF THE PRODUCT;

- (5) ANY PROBLEM, CONSEQUENTIAL INCONVENIENCE, OR LOSS OR DAMAGE, ARISING OUT OF THE SYSTEM COMBINED BY THE DEVICES OF THIRD PARTY;
- (6) ANY CLAIM OR ACTION FOR DAMAGES, BROUGHT BY ANY PERSON OR ORGANIZATION BEING A PHOTOGENIC SUBJECT, DUE TO VIOLATION OF PRIVACY WITH THE RESULT OF THAT SURVEILLANCE-CAMERA'S PICTURE, INCLUDING SAVED DATA, FOR SOME REASON, BECOMES PUBLIC OR IS USED FOR THE PURPOSE OTHER THAN SURVEILLANCE;
- (7) LOSS OF REGISTERED DATA CAUSED BY ANY FAILURE.

# Preface

The network camera WV-NP304 is designed to operate using a PC on a network (10BASE-T/100BASE-TX).

By connecting to a network (LAN) or the Internet, images and audio from the camera can be monitored on a PC via a network.

---

**Note:**

- It is necessary to configure the network settings of the PC and its network environment to monitor images and audio from the camera on the PC. It is also necessary that a web browser is installed on the PC.
- 

## Features

### **Introduction of 1.3 mega pixel progressive scan CCD**

The introduction of the progressive scan type of CCD has achieved excellence in performance for motion images and high resolution.

### **Adaptive black stretch**

This function automatically detects dark and less viewable portions of a subject and makes the portions brighter.

---

**Important:**

- The use of the adaptive black stretch function may increase noise at the dark portions of the subject. The use of this function may also emphasize the darkness or brightness at the border between the dark and bright portions compared with other dark or bright portions.
- 

### **JPEG/MPEG-4 dual encode**

MPEG-4 images can be monitored while monitoring JPEG images.

### **Focus assist function equipped**

This function informs users of an optimal focal point at focus adjustment.

### **No special power supply and cable installation required (Power over Ethernet)**

Power can be supplied to the camera and images/audio transmitted on a single LAN cable by connecting to PoE-compatible network devices. Special installation of a power supply for the camera is not required.

### **Interactive communication with audio is available**

By using the audio output connector and the microphone in connector, receiving audio from the camera on a PC and transmitting audio from the PC to the camera are available.

### **Motion detection function**

When a motion is detected, this product will take the following actions.

- Outputs alarm signals
- Transfers images to the FTP server
- Notifies by mail
- Saves images on the SD memory card

---

**Note:**

- The motion detector is not a function dedicated to prevent theft or fire, etc. No warranty is provided for any damage and loss resulting in use of this function.
- 

**SD memory card slot**

Images can be recorded on an optional SD memory card both automatically (when images fail to transmit using the FTP periodic transmission function) and manually. It is possible to play images saved on the mini SD memory card using a web browser or to download images displayed on a web browser.

---

**Note:**

- Compatible SD memory card  
Performance with this camera has been checked by using Panasonic's SD memory cards (64 MB, 128 MB, 256 MB, 512 MB, 1 GB, and 2 GB).  
SD High Capacity (SDHC) card is not compatible with this camera.
- 

**Installation on a ceiling or a wall is available**

When using an optional mount bracket, mounting on a ceiling or mounting on a wall is available.

## About These Operating Instructions

There are 3 sets of operating instructions for the WV-NP304 as follows.

- Installation guide (book, these operating instructions)
- Operating instructions (PDF)
- Setup instructions (PDF)

The "Installation guide" contains descriptions of how to install and connect this camera, and of how to perform the required network settings.

Refer to the "Operating instructions (PDF)" and the "Setup instructions (PDF)" on the provided CD-ROM for descriptions of how to perform the camera settings and how to operate this camera. Adobe® Reader® is required to read the operating instructions (PDF) and the setup instructions (PDF).

## System Requirements for a PC

CPU	Pentium® 4 2.4 GHz or faster (A 3.0 GHz CPU or faster CPU is required when using Microsoft® Windows Vista®.)
Memory	512 MB or more (A minimum of 1 GB memory is required when using Microsoft® Windows Vista®.)
Network interface	10/100 Mbps Ethernet port x1
Audio interface	Sound card (when using the audio function)
Monitor	Resolution: 1 024 x 768 pixels or more Color: 24-bit True color or better
OS	Microsoft® Windows Vista® Business (32-bit) Microsoft® Windows® XP Home Edition SP2* Microsoft® Windows® XP Professional SP2*
Web browser	Windows® Internet Explorer® 7.0 * Microsoft® Internet Explorer® 6.0 SP2 is required when using Microsoft® Windows® XP Home Edition SP2 or Microsoft® Windows® XP Professional SP2.
Other	CD-ROM drive: It is necessary to read the operating instructions and use the software on the provided CD-ROM. DirectX® 9.0c or later Adobe® Reader®: It is necessary to read the operating instructions on the provided CD-ROM.

---

### Notes:

- When using a PC that does not meet the above requirements, displaying of images may become slow or the web browser may become inoperable.
  - Audio may not be heard if a sound card is not installed on a PC. Audio may be interrupted depending on the network environment.
  - Refer to "Notes on Vista®" (PDF) for further information about system requirements for a PC and precautions when using Microsoft® Windows Vista®.
  - Use Microsoft® Windows Vista® when operating in an IPv6 network.
-

## Trademarks and Registered Trademarks

- Microsoft, Windows, Windows Vista, Internet Explorer, ActiveX and DirectX are either registered trademarks or trademarks of Microsoft Corporation in the United States and other countries.
- Intel and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.
- Adobe and Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.
- SD logo is a trademark.
- Other names of companies and products contained in these operating instructions may be trademarks or registered trademarks of their respective owners.

## Network Security

As you will use this product connected to a network, your attention is called to the following security risks.

1. Leakage or theft of information through this product
2. Use of this product for illegal operations by persons with malicious intent
3. Interference with or stoppage of this product by persons with malicious intent

It is your responsibility to take precautions such as those described below to protect yourself against the above network security risks.

- Use this product in a network secured by a firewall, etc.
- If this product is connected to a network that includes PCs, make sure that the system is not infected by computer viruses or other malicious entities (using a regularly updated anti-virus program, anti-spyware program, etc.).
- Protect your network against unauthorized access by restricting users to those who log in with an authorized user name and password.
- Apply measures such as user authentication to protect your network against leakage or theft of information, including image data, authentication information (user names and passwords), alarm mail information, FTP server information and DDNS server information.
- Do not install the camera in locations where the camera or the cables can be destroyed or damaged by persons with malicious intent.



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# Precautions

## **To continue using with stable performance**

Parts of this product may deteriorate and it may shorten the lifetime of this product when using in locations subject to high temperatures and high humidity.

(Recommended ambient temperature: 35°C or below)

Do not expose the product to direct heat such as from a heater.

## **Handle this product with care.**

Do not strike or shake, as this may damage the product. It may cause a malfunction.

## **About the PC monitor**

When displaying the same image on the CRT PC monitor for a long time, the CRT PC monitor may be damaged. It is recommended to use a screen-saver.

## **When an error is detected, the camera will reboot automatically.**

This camera will reboot when detecting an error caused by any reason. The camera will be inoperable for around 30 seconds after the reboot just as when the power is turned on.

## **Cleaning the camera body**

Turn the power off when cleaning the camera.

Otherwise, it may cause injury.

Do not use strong abrasive detergent when cleaning the camera body.

Otherwise, it may cause discoloration.

When using a chemical cloth for cleaning, read the caution provided with the chemical cloth product.

## **When the dirt is hard to remove**

Use a mild detergent and wipe gently.

Then, wipe the detergent completely off with a dry cloth.

## **Cleaning the lens**

Use a lens cleaning paper (used to clean camera lenses or lenses of spectacles). When using solvent, use an alcohol solvent. Do not use a thinner or a glass cleaner.

## **Refresh interval**

Image refresh interval may become slow depending on the network environment, PC performance, shooting subject, access traffic, etc.

## **SD memory card**

- When insert an SD memory card into the SD memory card slot, turn the power of the camera off. Otherwise, it may cause malfunction or damage data recorded on the SD memory card.

Refer to page 28 for descriptions of how to insert/remove an SD memory card.

- When using an unformatted SD memory card, format it using this camera.

Recorded data on the SD memory card will be deleted when formatted.

If using an unformatted SD memory card or using an SD memory card formatted with other device, the camera may not work properly or performance deterioration may be caused.

Refer to the setup instructions (PDF) for descriptions of how to format an SD memory card.

- It is recommended to use Panasonic's SD memory cards (64 MB, 128 MB, 256 MB, 512 MB, 1 GB, and 2 GB) since they have tested and confirmed full compatibility with this camera.

If another SD memory card is used, the camera may not work properly or performance deterioration may be caused.

### Code labels

Retain these labels for future reference.

The codes on the label will be requested when you contact the service station.

It is recommended to paste one of the labels onto the CD-ROM case.

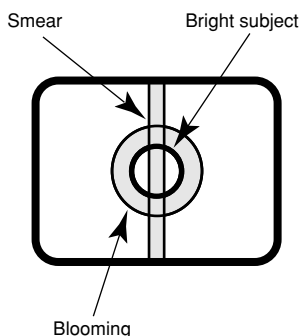
### Discoloration on the CCD color filter

When continuously shooting a bright light source such as a spotlight, the color filter of the CCD may have deteriorated and it may cause discoloration.

Even when changing the fixed shooting direction after continuously shooting a spotlight for a certain period, the discoloration may remain.

### Do not aim the camera at strong light sources.

A light source such as a spot light causes a blooming (light bleeding) or a smear (vertical lines).



### Safety wire

The safety wire holder is provided on the top of the camera. To prevent the camera from dropping that may cause accidental injury, attach one end of a safety wire (locally procured) to the safety wire holder of the camera and the other end to a locally procured safety wire holder (bracket, etc.) to be installed on the foundation part of the building.

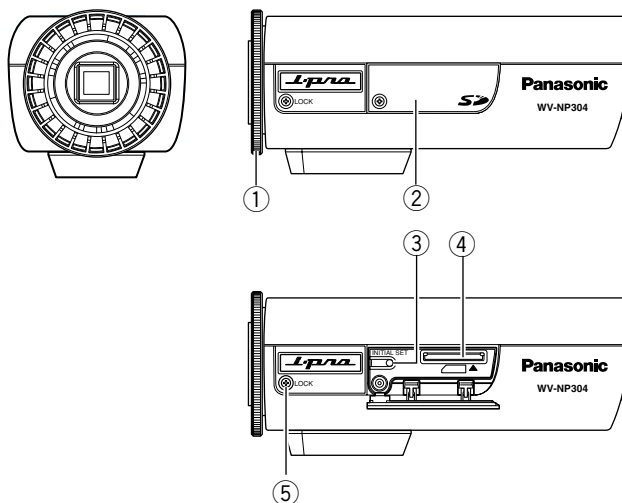
### MPEG-4 Visual patent portfolio license

This product is licensed under the MPEG-4 Visual patent portfolio license for the personal and non-commercial use of consumer for (i) encoding video in compliance with the MPEG-4 Visual Standard ("MPEG-4 Video") and/or (ii) decoding MPEG-4 Video that was encoded by a consumer engaged in a personal and non-commercial activity and/or was obtained from a video provider licensed by MPEG LA to provide MPEG-4 Video. No license is granted or shall be implied for any other use. Additional information including that relating to promotional, internal and commercial uses and licensing may be obtained from MPEG LA, LLC.

See <http://www.mpegla.com>.

# Major operating controls and their functions

## ■ Front/Side View



### About the [INITIAL SET] button

Turn on the power of the camera while holding down the button, and wait for around 5 seconds without releasing this button. Wait another 30 seconds after releasing the button. The camera will restart and the settings including the network settings will be reset to the default.

#### ① Flange-back length adjustment ring

Adjust the flange-back length by rotating this ring.

Before adjusting the flange-back length, adjust the lens first. (☞ page 16)

#### ② SD memory card slot cover

Cover the SD memory card slot to protect the SD memory card in the slot. (☞ page 28)

#### ③ Initialization button [INITIAL SET]

Use this button to reset the settings of the camera to the default settings.

Turn off the power of the camera. Then, turn on the power of the camera while holding down this button and wait around 5 seconds without releasing this button. Wait around 30 seconds after releasing the button. The camera will restart and the settings including the network and the date/time settings will be initialized.

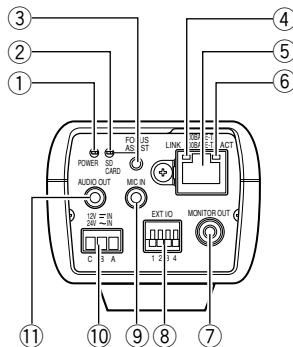
#### ④ SD memory card slot

Insert an SD memory card. (☞ page 28)

#### ⑤ Flange-back length fixing screw

Fix the adjusted flange-back length using this screw. (☞ page 18)

## ■ Rear View



### ① Power indicator [POWER]

**Green:** This indicator will light green when the power is on.

### ② SD memory card error indicator/ Focus assist indicator [SD CARD]

**Red:** Lights in the following cases.

- When images cannot be stored on the SD memory card,
- When the focus assist function is started,
- When BEST FOCUS is displayed.

### ③ Focus assist button [FOCUS ASSIST]

Activates the focus assist function. (☞ page 18)

### ④ Link indicator [LINK]

**Orange:** Lights when the communication with a network is established.

### ⑤ Network connector

Connect a LAN cable (category 5 or better). (☞ page 25)

### ⑥ Access indicator [ACT]

**Green:** Blinks when the camera is accessed.

### ⑦ Monitor output connector (for adjustment use only) [MONITOR OUT]

This connector is provided only for checking the adjustment the angular field of view or the focus on the video monitor when installing the camera or when servicing. (☞ page 24)

### ⑧ External I/O connector [EXT I/O]

Connect an external device to these terminals. (☞ page 25)

### ⑨ Microphone input connector [MIC IN]

Connect a plug-in power type microphone.

### ⑩ 24V AC/12V DC Power cable terminal

Connect to the 24V AC/12V DC power supply. (☞ page 24)

### ⑪ Audio output connector [AUDIO OUT]

Connect an external powered speaker.

# Precautions for installation

**All work related to the installation of this product should be made by qualified service personnel or system installers.**

## **Use this product for indoor use only.**

Do not expose this product to direct sunlight for hours and do not install the product near a heater or an air conditioner. Otherwise, it may cause deterioration, discoloration and malfunction. Keep this product away from water.

## **Avoid installing in the following locations.**

- Locations where it may get wet from rain or water splash
- Locations where a chemical agent is used such as a swimming pool
- Locations subject to steam and oil smoke such as a kitchen
- Locations near flammable gas or vapor
- Locations where radiation or x-ray emissions are produced
- Locations where it may be damaged by briny air such as seashores
- Locations where the temperature is not between  $-10^{\circ}\text{C}$  -  $+50^{\circ}\text{C}$
- Locations subject to vibrations (This product is not designed for on-vehicle use.)
- Locations subject to condensation as the result of severe changes in temperature

**Be sure to remove this product if it is not in use.**

## **Before starting installation**

- Use the camera mount bracket shown on page 23 to mount the camera.
- When installing the camera and the camera mount bracket on a ceiling/wall, use the screws listed on page 22. Screws are not provided with this product. Prepare them after considering the total weight, the material and strength of the area where the camera is to be installed.

- The installing place shall be sufficiently reinforced and anchors/screws to be used shall be strong enough for the installation.
- Do not install the camera on a plaster board or on a wood board since they don't have enough strength for installation.

## **When tightening fixing screws**

- Firmly tighten screws that are suited to fix with the material and strength of the area where the camera is to be installed.
- Do not use a powered screw driver. Otherwise, it may damage the camera.
- Tighten screws firmly. After tightening screws, check with eyes if the camera is fixed firmly.

## **Safety wire**

When using a locally procured safety wire to prevent the camera from dropping, determine the installing place after considering possibilities of injury that may be caused by the camera mount bracket if it is damaged. When using a safety wire, adjust the length to stretch the wire with tension.

## **Adjustment of the tilting angle**

Before adjusting the tilting angle of the camera, make sure that the screws of the camera mount bracket are loosened. Failure to do so may damage both the camera and the camera mount bracket. Tighten the screws firmly after adjusting the tilting angle of the camera.

## **Radio disturbance**

When this product is used near a TV/radio antenna, or a strong electric field or magnetic field (such as near a motor, a transformer or power lines), images may be distorted and noise may be caused.

## **PoE (Power over Ethernet)**

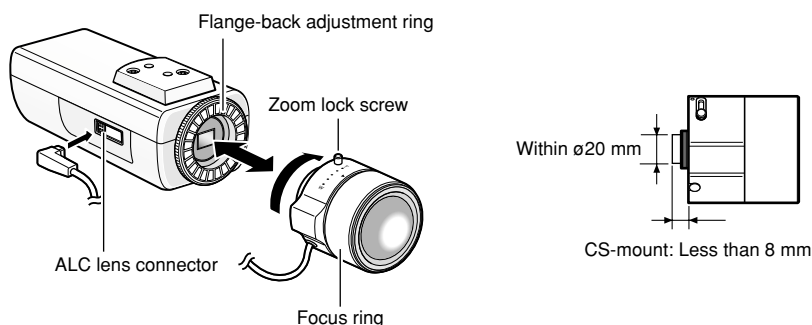
Use a PoE hub/device that is compliant with IEEE802.3af standard.

**Router**

When connecting this product to the Internet, use a broadband router with the port forwarding function (NAT, IP masquerade). Refer to the setup instructions (PDF) for how further information about the port forwarding function.

# Lens mounting

Mount the lens by rotating it clockwise slowly. Then, connect the lens cable to the ALC lens connector of the camera.



## Optional lens

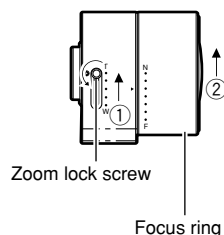
Lens type	Model no.
ALC lens for 1/3-inch type CCD cameras 2x varifocal (high resolution)	WV-LZA62/2

Other lenses for 1/3 inch CCD cameras can be mounted on this camera. However, high resolution scanning of this camera may not be fully used for scanning of "1 280 x 960". It is recommended to use a dedicated high-resolution lens when shooting a dark subject with the aperture opened.

## How to use a varifocal lens

The following are descriptions of how to adjust a 2x varifocal lens. Method of adjustment may be different depending on the lens in use. Refer to the operating instructions of the lens in use for further information.

1. Loosen the zoom lock screw and rotate to the "T" end.
2. Set the focus ring to near the "F" end.
3. Focus on a subject which is located around 10 m away or further to adjust the flange-back length using flange-back adjustment ring.

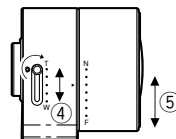


### Important:

- Check if it is possible to focus on a subject which is located around 1.2 m away by rotating the focus ring while setting the zoom lock screw to the "W" end.



4. Loosen the zoom lock screw, and then move the angular field of view between "TELE" and "WIDE". Tighten the zoom lock screw after moving the angular field of view.
5. Press the focus assist button, and then rotate the focus ring to focus on a subject appropriately.



---

**Important:**

- To change the angular field of view by moving the zoom ring, also move the focus ring to adjust the focus coarsely.
- 

## How to use a fixed-focus lens

When using a fixed-focus lens featured the focus adjustment, adjust the flange-back length after setting the lens focus to the "FAR" end.

Before adjusting the flange-back length, make sure that the flange-back ring fixing screw is loosened. Tighten the fixing screw after adjusting the flange-back length.

Recommended tightening torque: 0.05 N·m

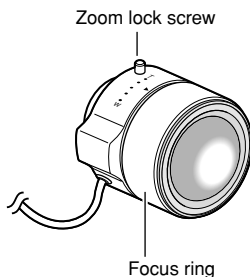
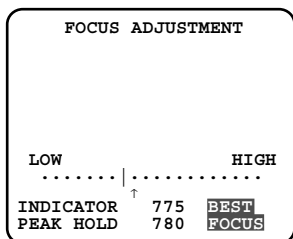
---

**Important:**

- Do not tighten the flange-back ring fixing screw with excessive force. It may strip threads of the screw and may result in out of focus subjects.
-

## Adjustment of angular field of view and focus

Angular field of view and focus can be adjusted coarsely according to the distance between the camera and a subject. Adjust angular field of view and focus while determining the shooting direction.



- 1 Loosen the zoom lock screw, and then adjust the angular field of view by rotating the zoom lock screw. Move the focus coarsely by rotating the focus ring.
- 2 Tighten the zoom lock screw.
- 3 Press the focus assist button.  
→ The "FOCUS ADJUSTMENT" screen appears.  
The focus assist function provides optimal adjustment.
- 4 Move the focus ring to near the focal point to automatically register the optimal focal point as the "PEAK HOLD" value (higher value for closer to the focal point).
- 5 Move the focus ring to display the value of the current focus state at "INDICATOR". Adjust the focus ring to bring the value of "INDICATOR" close to the value of "PEAK HOLD".
- 6 When the focal point is obtained, highlighted "BEST FOCUS" appears at the lower right position.
- 7 Press the focus assist button again to exit from the "FOCUS ADJUSTMENT" screen (or wait for approx. 3 minutes to automatically terminate).

---

**Note:**

- If the angular field changed during adjustment, press the focus assist button to exit from the "FOCUS ADJUSTMENT" screen once (because change in the angular field causes change in the values of "PEAK HOLD" and "INDICATOR"). After adjustment of angular field, conduct the procedure from step 3.
- 

---

**Important:**

- If a subject is applicable to the following, press the focus assist button again to exit from the "FOCUS ADJUSTMENT" screen or obtain an optimal focal point while viewing the image.
    - Frequently moving subject
    - Subject with remarkable illuminance change
    - Subject with low illuminance
    - Too bright or reflective subject
    - Subject through a window
    - Place where the lens easily becomes dirty
    - Subject with less contrast such as white wall
    - Subject with remarkable depth
    - Subject with heavy flicker
    - Subject with horizontally parallel lines such as a shutter
-

# Installation

## Attach a safety wire

The following is a safety wire attachment example. Procure an appropriate safety wire kit according to the installing place.

Refer to the operating instructions of the safety wire kit in use together with this installation guide when attaching a safety wire.

### Important:

- To prevent the camera from dropping that may cause accidental injury, attach a safety wire between the camera and the installing place. Contact your dealer for attachment of a safety wire.

## When installing on a ceiling

<Required camera mount bracket and safety wire kit>

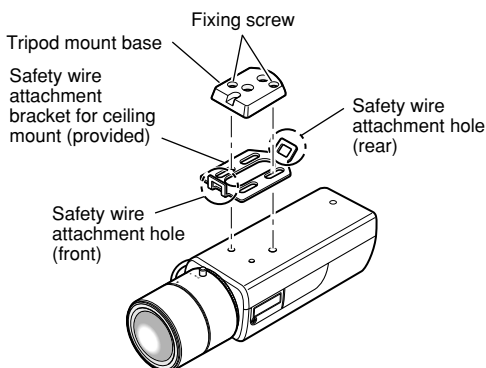
- Camera mount bracket: WV-7010A
- Safety wire kit: WV-Q141

**1** Detach the tripod mount base from the camera.

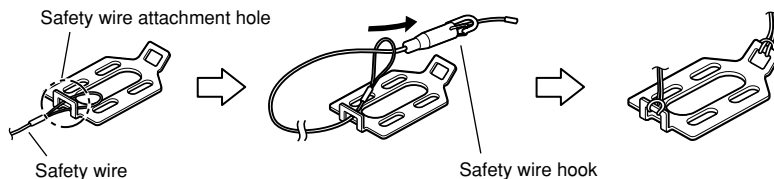
**2** Fix the tripod mount base and the safety wire attachment bracket for ceiling mount (provided) using the fixing screw. Use the removed screw (used to fix the tripod mount base).

When a screw other than the removed screw (with a different height) is used, it may result in drop or damage of the camera.

Recommended tightening torque: 0.39 N·m



**3** Attach the two safety wires to the safety wire attachment holes (front/rear).



- ① Pass the loop end of the safety wire through the safety wire attachment hole.
- ② Hook the loop end of the safety wire on the safety wire hook.

## When installing on a wall

<Required camera mount bracket and safety wire kit>

- Camera mount bracket: WV-831
- Safety wire kit: WV-Q140

- 1 Attach the safety wire attachment bracket for wall mounting (provided) to the screw hole for the camera mount bracket using the fixing screw (provided).

---

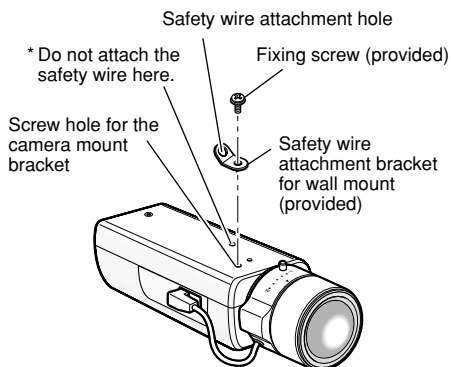
### Important:

- Use the provided screw to attach the safety wire attachment bracket for wall mounting.

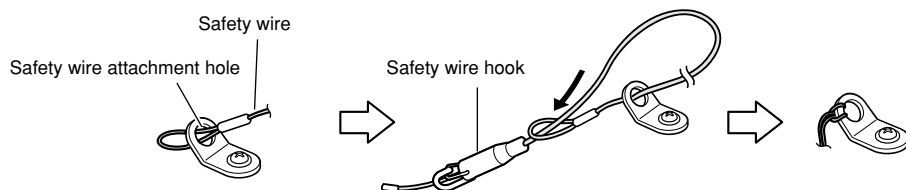
When a screw other than the removed screw (with a different height) is used, it may result in drop or damage of the camera.

Recommended tightening torque: 0.39 N·m

---



- 2 Attach the safety wire to the safety wire attachment hole.



- ① Pass the loop end of the safety wire through the safety wire attachment hole.
- ② Hook the loop end of the safety wire on the safety wire hook.

# Camera mounting

Mount the camera onto an optional camera mount bracket and attach the safety wire.

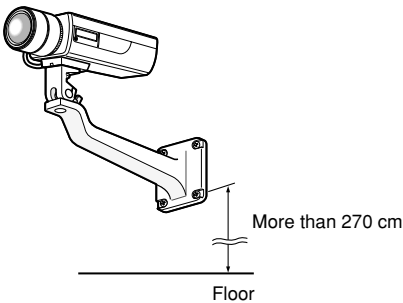
- Important:**
  - Make sure that the installing place is strong enough to support the total weight of the camera and the camera mount bracket.
  - Installing the camera mount bracket on the foundation part of the building or equivalent strong part.
  - Do not use wood screws to fix the camera mount bracket (option) since they are not strong enough to support the weight of the camera and the bracket.

- 1** Fix an optional camera mount bracket onto the desired place and mount the camera on it. Use appropriate screws for the ceiling/wall material to secure an optional camera mount bracket. Method of installation may be different depending on the material of the place where the camera mount bracket is to be installed.
  - When installing on steel: Fix with bolts and nuts (M6 or M8)
  - When installing on concrete: Fix with anchor bolts (M6 or M8)

• The following are the requirements of the camera mount bracket installation:

Installing place	Appropriate camera mount bracket	Recommended screw	Number of screw	Pull-out capacity of a single screw
On ceiling	WV-7010A	M6 or M8	3 pcs.	196 N
On wall	WV-831	M8	4 pcs.	921 N

- Important:**
  - When installing the camera mount bracket on wall, installation height of the camera mount bracket shall be as indicated in the following illustrations.



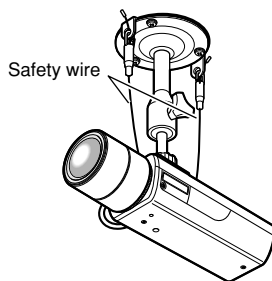
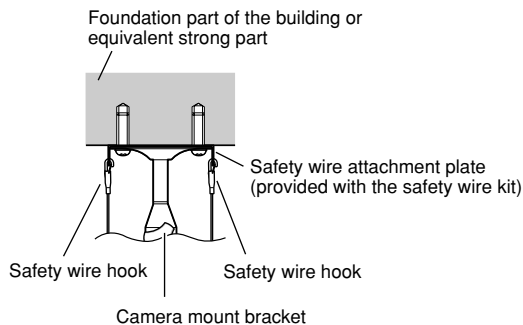
- 2** Hook the safety wire attachment hook on the safety wire attachment plate (provided with the safety wire kit) or the safety wire attachment bracket (provided with the safety wire kit) that is fixed on the foundation part of the building or equivalent strong part.

---

**Important:**

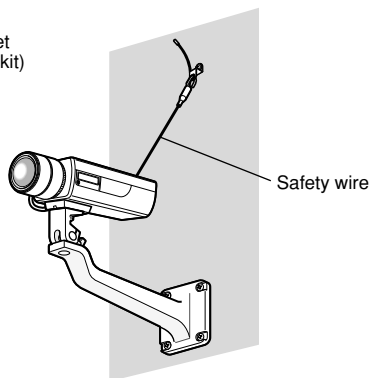
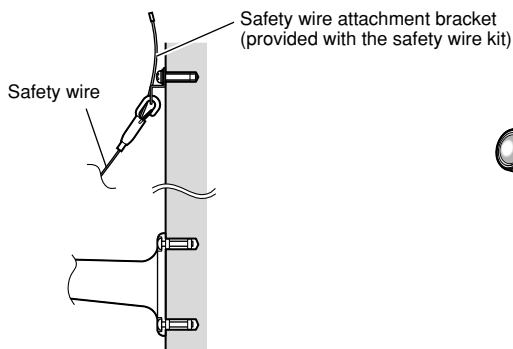
- The safety wire shall be attached with tension applied.
- 

<When installing on ceiling>



[Installation example]

<When installing on wall>



[Installation example]

# Connection

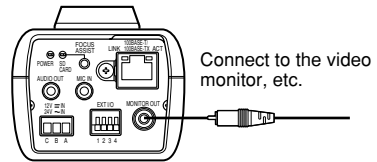
## Caution:

ONLY CONNECT THIS TO 24 V AC OR 12 V DC CLASS 2 POWER SUPPLY.

Before starting the connection, make sure that the power of the devices to be connected such as the camera and a PC are off or the power cords of the devices are disconnected.

Before starting the connection, prepare the required devices and cables.

- 1 Connect an RCA plug to the monitor out connector provided on the rear only for adjustment of the angular field of view on the video monitor.



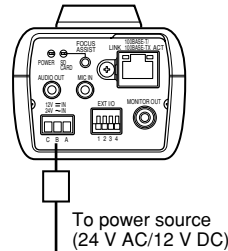
## Important:

- The monitor out connector is provided only for checking the adjustment of the angular field of view on the video monitor when installing the camera or when servicing. It is not provided for recording/ monitoring use.

- 2 Connect to the power source.

## Important:

- 24V AC/12 V DC power supply shall be insulated against 220 V - 240 V AC.



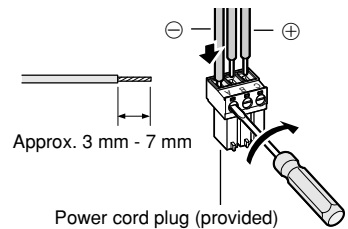
## • When connecting to 24 V AC/12 V DC power source

- ① Loosen the screw of the provided power cord plug.
- ② Insert the power cord of an optional AC adapter to the power cord plug.

When using 24 V AC/12 V DC power supply, remove 3 mm - 7 mm of the outer jacket of the power cord from a power supply and twist the core of the power cord to prevent a short circuit.

**Specification of cord (wire):** AWG #22 - #28 single core, twisted

- \* Make sure that the exposed core wires are completely hidden after inserting the power cord.
- ③ Tighten the screws to fix the inserted power cord.
  - ④ Connect the power cord plug to the 24 V AC/12 V DC power cord terminal on the rear of the camera.



## <Ratings>

	AC24 V	DC12 V
A	N	⊖(GND)
B	GND	NC
C	L	⊕

- \* Make sure that the power cord plug is inserted to the power cord terminal firmly.



### • When using PoE (Power over Ethernet: IEEE802.3af compliant)

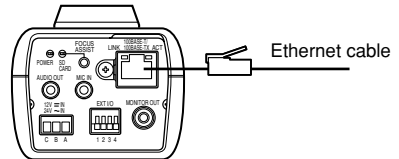
Connect a LAN cable (category 5 or better) between a PoE device (such as a PoE hub) and the network connector of the camera.

---

#### Important:

- Use all of 4 pairs (8 pins) of the LAN cable.
  - Maximum length of an Ethernet cable that can be connected is 100 m.
  - Make sure that the PoE device in use is compliant with IEEE802.3af standard.
  - When connecting both the 12 V DC power supply and the PoE device for power supply, PoE will be used for power supply.
  - When disconnecting the LAN cable once, connect the cable again after 2 seconds or more from the disconnection. When the cable is connected before 2 seconds passed, the power may not be supplied from the PoE device.
  - Refer to the provided slip (Recommended network devices for PoE (IEEE802.3af compliant) connection with the WV-NP304) for applicable PoE devices.
- 

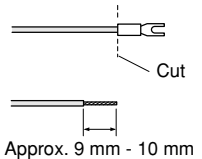
- 4** Connect a LAN cable (category 5 or better) to the network connector on the rear.



- 5** Connect an external device to the EXT connector. Remove 9 mm - 10 mm of the outer jacket of the cable from the external device and twist the core of the cable to prevent a short circuit.

**Specification of cord (wire):** AWG #22 - #28 single core, twisted

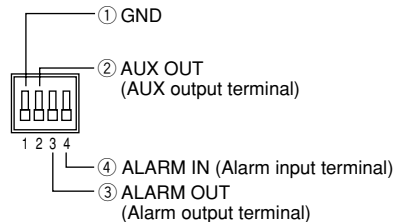
- \* Make sure that the exposed core wires are completely hidden after inserting the cable.



---

#### Important:

- Do not connect 2 wires or more directly to a terminal. When it is necessary to connect 2 wires or more, use a splitter.
  - Connect an external device with verifying that the ratings are within the specification below.
- 



#### <Ratings>

① GND

② AUX OUT

Output specification: Open collector output (Maximum applied voltage: 20 V DC)

Open: 4 - 5 V DC by internal pull-up

Close: Output voltage of 1 V DC or less (50 mA or less)

③ ALARM OUT

Same as AUX OUT

④ ALARM IN

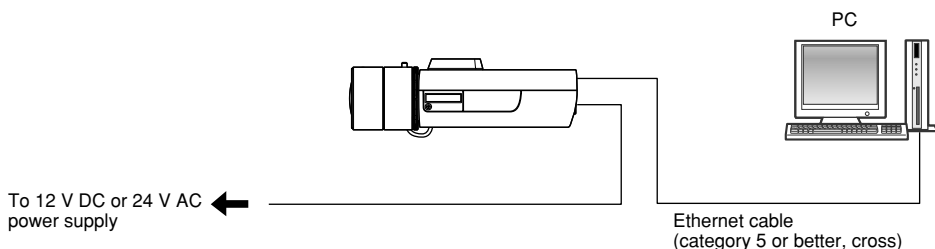
Input specification: Non-voltage make contact (4 - 5 V DC internal pull-up)

OFF: Open or 4 - 5 V DC

ON: Make contact with GND (drive current: 1 mA or more)

## Connection example

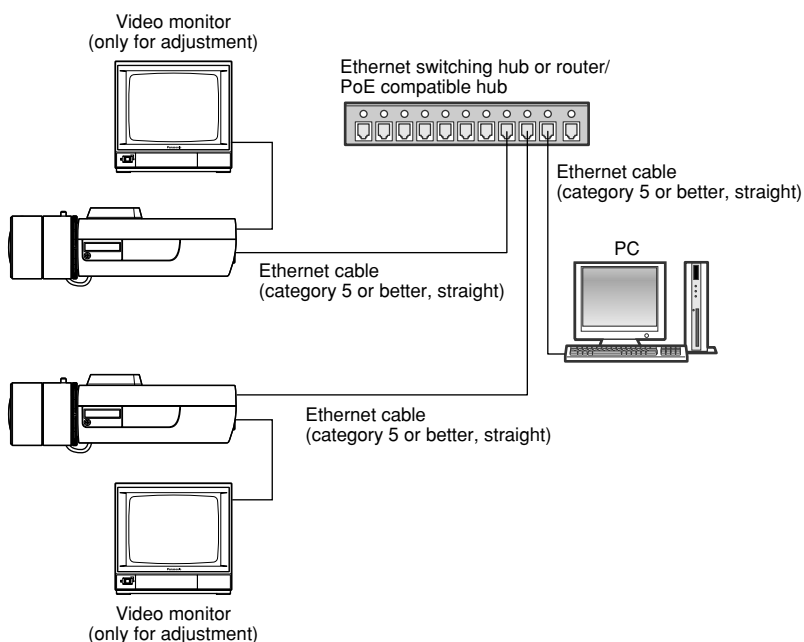
### When connecting with a PC directly



#### <Required cables>

Ethernet cable (category 5 or better, cross)

### When connecting to a network using a PoE device (hub)



#### <Required hardware>

PoE device (hub)

#### <Required cables>

Ethernet cable (category 5 or better, straight)

---

**Important**

- The monitor out connector is provided only for checking the adjustment of the angular field of view on the video monitor when installing the camera or when servicing. It is not provided for recording/ monitoring use.
  - Use a switching hub or a router which is compliant with 10BASE-T/100BASE-TX.
  - Power supply is required for each network camera. When using a PoE device (hub), 12 V DC power supply is unnecessary. When using a PoE device (hub), 12 V DC power supply is unnecessary.
-

# Insert/remove an SD memory card

## Important:

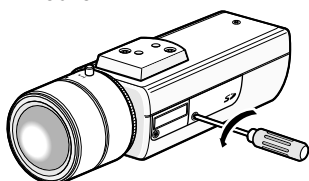
- Before inserting the SD memory card, turn off the power of the camera first.

## How to insert an SD memory card

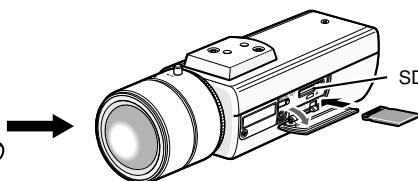
### Important:

- Make sure that the SD memory card is inserted with the reverse side up.

- ① Loosen the lock screw of the SD memory card slot cover.



- ② Open the SD memory card slot cover.



- ③ Insert the SD memory card into the SD card memory slot.

SD memory card slot

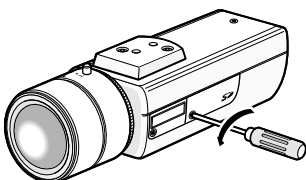
- ④ Tighten the screw to close the SD memory card slot cover firmly.  
Recommended tightening torque: 0.19 N·m
- ⑤ Select "Use" for "SD memory card" on the [SD memory card] tab of "Basic" on the setup menu. (Setup instructions (PDF))

## How to remove the SD memory card

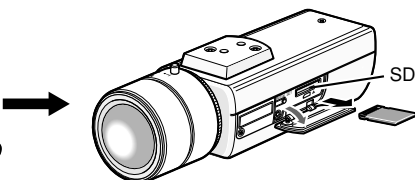
### Important:

- Before removing the SD memory card, select "Not use" for "SD memory card" on the [SD memory card] tab of "Basic" on the setup menu first. After configuring the setting above, turn off the power of the camera and then remove the SD memory card. (Setup instructions (PDF))

- ① Loosen the lock screw of the SD memory card slot cover.



- ② Open the SD memory card slot cover.



- ③ Release the locked SD memory card by pushing the card and then pull the SD memory card from the slot.

SD memory card slot

- ④ Tighten the screw to close the SD memory card slot cover firmly.  
Recommended tightening torque: 0.19 N·m

# Configure the network settings

## Install the software

Before installing the software, read the readme file on the provided CD-ROM first.

### Software included on the provided CD-ROM

- Panasonic IP setting software  
Configure the network settings of the camera. Refer to the following for further information.
- Viewer software "Network Camera View3"  
It is necessary to install the viewer software "Network Camera View3" to display images on a PC. Double-click the "nwcv3setup.exe" icon on the provided CD-ROM and follow the instructions of the displayed install wizard to install the viewer software "Network Camera View3".

## Configure the network settings of the camera using the Panasonic IP setting software

It is possible to configure the network settings of the camera using the IP setting software on the provided CD-ROM.

When using multiple cameras, it is necessary to configure the network settings of each camera independently.

If the Panasonic IP setting software does not work, configure the network settings of the camera and the PC individually on the "Network" page of the setup menu. Refer to the setup instructions (PDF) for further information.

---

### Important:

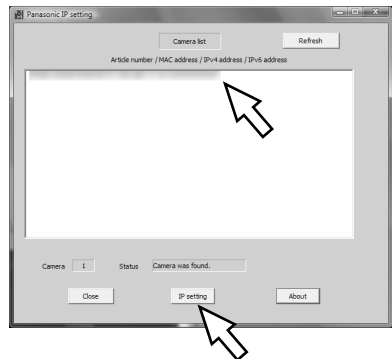
- When using Windows® XP SP2, the "Windows Security Alert" window may be displayed when starting the IP setting software.  
In this case, click the "Unblock" button on the displayed "Windows Security Alert" window.
  - If Windows Vista® is used, the password of the administrator account may be required after startup of the Panasonic IP setting software. In such a case, disable "User Account Control" from Control Panel.
  - For the security enhancement, the MAC address/IP address of the camera to be configured will not be displayed when around 20 minutes have passed after turning on the power of the camera.
  - The Panasonic IP setting software is inoperable from other subnets via the same router.
  - It is impossible to display and configure this camera when using an old version (ver. 2.xx) of the Panasonic IP setting software.
-

- 1 Start the Panasonic IP setting software.
- 2 Click the [IP setting] button after selecting the MAC address/IP address of the camera to be configured.

---

**Note:**

- When using a DHCP server, the IP address assigned to the camera can be displayed by clicking the [Refresh] button of the IP setting software.
- 

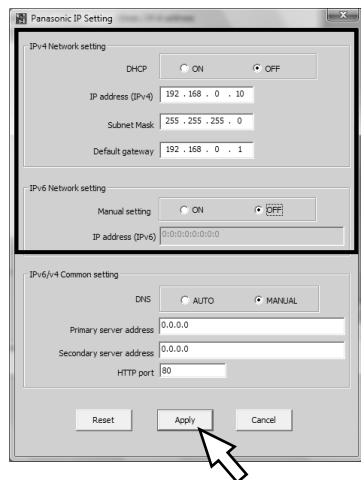


- 3 Complete each network setup item and click the [Apply] button.

---

**Note:**

- When using a DHCP server, it is possible to set "DNS" to "Auto".
- 



---

**Important:**

- It may take around 30 seconds to completely upload the settings of the camera after clicking the [Apply] button. The settings may be invalidated when the power supply from the AC adapter is cut or when the LAN cable is disconnected before completing the upload. In this case, perform the settings again.
  - When using a firewall (including software), allow access to all UDP ports.
-

# Troubleshooting

Before asking for repairs, check the symptoms on the following table.  
Contact your dealer if a problem cannot be solved even after checking and trying the solution or if the problem is not described below.

Symptom	Cause/solution	Reference pages
<div>The power cannot be turned on.</div>	<div><b>When using AC/DC power supply</b><ul style="list-style-type: none"><li>Is 24 V AC/12 V DC power supply connected to the power cord terminal? → Confirm the cable is firmly connected.</li></ul></div> <div><b>When using a PoE device for power supply</b><ul style="list-style-type: none"><li>Are the PoE device and the network connector on the rear of the camera connected using a LAN cable (4-pair)? → Confirm the cable is firmly connected.</li><li>Depending on the PoE device, the power supply will stop when the demanded power exceeds its total power limit for all PoE ports. → Refer to the operating instructions of the PoE device in use.</li></ul></div>	24 - 25

# Specifications

## General specification

Power source	24V AC, 50 Hz, 12 V DC, PoE (IEEE802.3af compliant)
Power consumption	12 V DC: 530 mA, PoE: 6.4 W (Class 2 device) 24V AC, 50 Hz: 5.2 W
Ambient temperature	-10 °C - +50 °C
Ambient humidity	90 % or less
Monitor output (only for adjustment)	VBS: 1.0 V [P-P]/75 $\Omega$ , composite, RCA jack (monaural)
External I/O terminals	ALARM IN, ALARM OUT, AUX OUT (x1 each)
Microphone input	$\varnothing$ 3.5 mm mini-jack (applicable microphone: plug-in-power type) Supply voltage: 2.5 V $\pm$ 0.5 V Input impedance: 3 k $\Omega$ $\pm$ 10 %
Audio output	$\varnothing$ 3.5 mm stereo mini-jack (line-level, monaural output)
Dimensions	72 (W) mm x 68 (H) mm x 158 (D) mm (excluding connectors/terminals)
Weight	Approx. 470 g

## Camera

Image sensor	1/3-inch type, interline transfer CCD
Effective pixels	1 296 (H) x 976 (V)
Scanning area	4.86 mm (H) x 3.65 mm (V)
Scanning system	Progressive
Minimum illumination	Color: 1.5 lx, Simplified black and white: 0.9 lx (F 1.4, WIDE end, automatic slow shutter: Off, AGC: High)
AGC	On (Low)/On (Mid)/On (High)/Off
Light control mode	Outdoor scene/Indoor scene/ELC, (BLC On/Off selectable)
Automatic slow shutter	Off, Max. 2/30s, Max. 4/30s, Max. 6/30s, Max. 10/30s, Max. 16/30s
Adaptive black stretch	On/Off
White balance	ATW1/ATW2/AWC
Simple black/white mode	Off/Auto
VMD alarm	On/Off, 4 areas available
ALC lens drive	DC drive
Privacy zone	On/Off (up to 8 zones available)
Lens mount	CS-mount
Optional lens	WV-LZA62/2



## Network

Network		10BASE-T/100BASE-TX, RJ45 connector
Resolution		1 280 x 960/VGA (640 x 480)/QVGA (320 x 240)
Image compression method		
	MPEG-4	MPEG-4 Image quality: LOW/NORMAL/FINE Transmission type: UNICAST/MULTICAST
	JPEG	JPEG Image quality: 0 SUPER FINE/1 FINE/2/3/4/5 NORMAL/6/7/8/9 LOW (10 steps: 0-9) Transmission type: PULL/PUSH
Refresh interval		0.1 fps - 30 fps (Frame rate of JPEG display will be limited when displaying JPEG and MPEG-4 simultaneously.)
Audio compression method		G.726 (ADPCM) 32 kbps/16 kbps
Bandwidth Control		64 kbps/128 kbps/256 kbps/512 kbps/1 024 kbps/ 2 048 kbps/4 096 kbps/Unlimited
Protocol	IPv4	TCP/IP, UDP/IP, HTTP, RTP, FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP
	IPv6	TCP/IP, UDP/IP, HTTP, RTP, FTP, SMTP, DNS, NTP, SNMP
OS		Microsoft® Windows Vista® Business (32-bit) *1 *2, Microsoft® Windows® XP Home Edition SP2, Microsoft® Windows® XP Professional SP2
Web browser		Windows® Internet Explorer® 7.0 * Microsoft® Internet Explorer® 6.0 SP2 is required when using Microsoft® Windows® XP Home Edition SP2 or Microsoft® Windows® XP Professional SP2.
Maximum access concurrent number		16 (Depends on network conditions)
FTP client		Alarm FTP image transmission, FTP periodic transmission (When the FTP periodic transmission is failed, backup on an optional SD memory card is available.)
Multi-screen		Images from 16 cameras can be displayed simultaneously.
SD memory card (optional)		Manufactured by Panasonic (Performance with this camera has been checked.) Capacity: 64 MB, 128 MB, 256 MB, 512 MB, 1 GB, 2 GB * SD High Capacity (SDHC) card is not compatible with this camera.

\*1: Refer to "Notes on Vista®" (PDF) for further information about system requirements for a PC and precautions when using Microsoft® Windows Vista®.

\*2: Use Microsoft® Windows Vista® when using in an IPv6 network.

# Standard Accessories

CD-ROM*	1 pc.
Installation Guide (this book)	1 pc.
Code Label	1 pc.

The following is for the installation.

Power cord plug	1 pc.
Safety wire attachment bracket for wall mount	1 pc.
Safety wire attachment bracket for ceiling mount	1 pc.
Screw (M2.5 x 8)	2 pcs. (incl. a spare screw)

\* The CD-ROM contains the operating instructions (PDFs) and the software.



## **Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)**



This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

### **For business users in the European Union**

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

### **Information on Disposal in other Countries outside the European Union**

This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

## **Matsushita Electric Industrial Co., Ltd.**

Osaka, Japan

<http://panasonic.net>

Importer's name and address to follow EU rules:

**Panasonic Testing Centre**

**Panasonic Services Europe GmbH**

**Winsbergring 15, 22525 Hamburg F.R.Germany**

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Ns0608-0

3TR005494AZA

Printed in China